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ART UNIT	PAPER NUMBER
2878	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/521,901	YAMAKAWA, TSUTOMU	
	Examiner	Art Unit	
	Shun Lee	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *27 December 2001* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 27 December 2001 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-7, 11, 12, 14, 16, 17, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamae *et al.* (US 4,857,737).

In regard to claim **1**, Kamae *et al.* disclose a nuclear medical diagnostic apparatus comprising:

(a) at least one radiation detector (20, 21, and 22 in Fig. 9) having a plurality of semiconductor cells (*i.e.*, diodes; column 1, lines 51-56) which are arranged in a matrix, detect radiation separately, and output signals representing an energy of the radiation separately (column 6, lines 6-58; column 7, lines 35-55);

(b) a selection circuit (*i.e.*, anticoincidence counter) which, in order to select, among events wherein the radiation is detected, a specific event wherein a radiation derived from radio-isotope injected to a subject is detected (column 1, lines 21-40), in a first case wherein either one of said semiconductor cells output a signal, compares an energy of the signal (*i.e.*, 511 keV) with a predetermined energy window (*i.e.*, the anticoincidence counter is used to exclude events N = 1 scattering events by determining if the detected energy is outside a predetermined window and thus the first case only includes N = 1 absorption events; column 9, lines 41-52), and in a second case wherein not less than two semiconductor cells output not less than two signals substantially simultaneously, calculates a total energy of the not less than two signals and compares the total energy with the predetermined energy window (column 7, lines 47-68);

(c) a position calculation circuit which, in the second case (column 8, lines 1-24), calculates an incidence position of the radiation on the basis of a position of either one semiconductor cell among said not less than two semiconductor cells (in the first case which are N = 1 absorption events, it should be noted that it is inherent in the apparatus Kamae *et al.* to calculate an incidence position of the radiation on the basis of a position of said semiconductor cell that has output the signal since

all of the energy of the 511 keV photon has been measured and thus by definition of a N = 1 event there is no other signal from the rest of the semiconductor cells; column 1, lines 21-40);

(d) a counting circuit (15 and 16 in Fig. 7) configured to count the specific event in association with the calculated incidence position (column 8, lines 61-67); and

(e) a circuit (15 and 16 in Fig. 7) configured to generate a distribution of radio-isotope in the subject on the basis of a counting result (column 8, line 67 to column 8, line 2).

In regard to claims **3-7** which are dependent on claim 1, Kamae *et al.* also disclose (column 8, lines 1-24) that in the second case, said position calculation circuit selects one from said not less than two semiconductor cells on the basis of the energy (*e.g.*, a minimum energy or a maximum energy depending on the Eq. in column 8) of the not less than two signals and the positions (*e.g.*, a first area and a second area) of said not less than two semiconductor cells.

In regard to claim **11** which is dependent on claim 1, Kamae *et al.* also disclose (column 11, lines 8-14) that each of said semiconductor cells has a scintillator layer and a photoelectric conversion layer (*i.e.*, plurality of scintillation counters using for example photodiodes).

In regard to claim **12**, Kamae *et al.* disclose a nuclear medical diagnostic apparatus comprising:

(a) at least one radiation detector (20, 21, and 22 in Fig. 9) having a plurality of semiconductor cells (*i.e.*, diodes; column 1, lines 51-56) which are arranged in a

matrix, detect radiation separately, and output signals representing an energy of the radiation separately (column 6, lines 6-58; column 7, lines 35-55);

(b) a selection circuit (*i.e.*, anticoincidence counter) which causes, among events wherein the radiation is detected, an event wherein at least two semiconductor cells output at least two signals substantially simultaneously, not to contribute to imaging (*i.e.*, exclusion of N > 1 scattering events by determining if the detected energy is outside a predetermined window; column 9, lines 41-52), and selects an event derived from radio-isotope injected to a subject (column 1, lines 21-40) on the basis of the energy of the signal,

(c) a position calculation circuit configured to calculate an incidence position of the radiation on the basis of positions of said semiconductor cells that output the signals (column 8, lines 1-24);

(d) a counting circuit (15 and 16 in Fig. 7) configured to count the selected event in association of the calculated incidence position (column 8, lines 61-67); and

(e) a circuit (15 and 16 in Fig. 7) configured to generate a distribution of radio-isotope in the subject on the basis of a counting result (column 8, line 67 to column 8, line 2).

In regard to claim **14**, Kamae *et al.* disclose a nuclear medical diagnostic apparatus comprising:

(a) at least one radiation detector (20, 21, and 22 in Fig. 9) having a plurality of semiconductor cells (*i.e.*, diodes; column 1, lines 51-56) which are arranged in a

matrix, detect radiation separately, and output signals representing an energy of the radiation separately (column 6, lines 6-58; column 7, lines 35-55);

(b) a position calculation circuit which, in a second case (column 8, lines 1-24) wherein not less than two semiconductor cells output not less than two signals substantially simultaneously, calculates an incidence position of the radiation on the basis of positions of said not less than two semiconductors that output the not less than two signals substantially simultaneously (in a first case which are N = 1 absorption events, it should be noted that it is inherent in the apparatus Kamae *et al.* to calculate an incidence position of the radiation on the basis of a position of said semiconductor cell that has output the signal since all of the energy of the 511 keV photon has been measured and thus by definition of a N = 1 event there is no other signal from the rest of the semiconductor cells; column 1, lines 21-40);

(c) a counting circuit (15 and 16 in Fig. 7) configured to count an event wherein radiation derived from radio-isotope injected to a subject is detected, in association with the calculated incidence position (column 8, lines 61-67); and

(d) a circuit (15 and 16 in Fig. 7) configured to generated a distribution of the radio-isotope in the subject on the basis of a counting result (column 8, line 67 to column 8, line 2).

In regard to claim **16** which is dependent on claim 14, Kamae *et al.* also disclose that in the second case, said position calculation circuit calculates a barycentric position of the positions of said not less than two semiconductor cells (*i.e.*, each possible

position of the not less than two semiconductor cells or sequence is given a weight proportional to the probability, column 8, lines 25-47).

In regard to claim **17** which is dependent on claim 14, Kamae *et al.* also disclose that in the second case, said position calculation circuit calculates, when said two semiconductor cells output signals substantially simultaneously, an incidence position on the basis of one of the positions of said two semiconductor cells (it should be noted Kamae *et al.* teach that there are N! possible sequences of reactions with N! = 2 for 2 signals and thus an incidence position on the basis of one of the positions of the two semiconductor cells will be calculated, column 8, lines 12-27), and when not less than three semiconductor cells output signals substantially simultaneously, a barycentric position of the positions of remaining ones of said plurality of semiconductor cells obtained by excluding said detection element that has output the signal having a maximum energy (*i.e.*, each possible position of the not less than two semiconductor cells or sequence is given a weight proportional to the probability, column 8, lines 25-47).

In regard to claim **20**, Kamae *et al.* disclose a nuclear medical diagnostic apparatus comprising:

(a) at least one radiation detector (20, 21, and 22 in Fig. 9) having a plurality of semiconductor cells (*i.e.*, diodes; column 1, lines 51-56) which are arranged in a matrix, detect radiation separately, and output signals representing an energy of the radiation separately (column 6, lines 6-58; column 7, lines 35-55); and

(b) a circuit (*i.e.*, anticoincidence counter) which, when not less than two semiconductor cells output not less than two signals substantially simultaneously, calculates a total energy of the not less than two signals (column 7, lines 47-68).

In regard to claim **21** which is dependent on claim 20, Kamae *et al.* also disclose a circuit configured to compare the total energy with a predetermined energy window (column 7, lines 47-68).

In regard to claim **22**, the method steps are implicit for the apparatus of Kamae *et al.* since the structure is the same as the applicant's apparatus of claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 8-9, 13, 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamae *et al.* (US 4,857,737) in view of DiFilippo *et al.* (US 5,793,045).

In regard to claim **2** which is dependent on claim 1, the apparatus of Kamae *et al.* lacks an internal coincidence circuit configured to determine the second case on the basis of a time difference among a plurality of signals output from said radiation detector. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (*i.e.*, second case,

column 5, lines 33-44). Therefore it would have been obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval (*i.e.*, second case) as taught by DiFilippo *et al.*

In regard to claim **8** which is dependent on claim 1, the apparatus of Kamae *et al.* lacks a circuit configured to calculate time differences between a signal output from either one of said plurality of semiconductor cells and signals output from remaining ones of said plurality of semiconductor cells. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (column 5, lines 33-44). Therefore it would have been obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval as taught by DiFilippo *et al.*

In regard to claim **9** which is dependent on claim 1, the apparatus of Kamae *et al.* lacks a circuit configured to calculate time differences between a signal output from either one of said plurality of semiconductor cells and signals output from remaining ones of said plurality of semiconductor cells, and determines the second case on the basis of the time differences. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order to determine if signals occur within a predetermined time interval (*i.e.*, second case, column 5, lines 33-44). Therefore it would have been

obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval (*i.e.*, second case) as taught by DiFilippo *et al.*

In regard to claim **13** which is dependent on claim 12, the apparatus of Kamae *et al.* lacks an internal incidence circuit configured to determine the event not contributing to imaging on the basis of a time difference among a plurality of signals output from said radiation detector. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (*i.e.*, second case, column 5, lines 33-44). Therefore it would have been obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval as taught by DiFilippo *et al.*

In regard to claim **15** which is dependent on claim 14, the apparatus of Kamae *et al.* lacks an internal coincidence circuit configured to determine the second case on the basis of a time difference among the plurality of signals output from said radiation detector. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (*i.e.*, second case, column 5, lines 33-44). Therefore it would have been obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus

of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval (*i.e.*, second case) as taught by DiFilippo *et al.*

In regard to claim **18**, Kamae *et al.* disclose a nuclear medical diagnostic apparatus comprising at least one radiation detector (20, 21, and 22 in Fig. 9) having a plurality of semiconductor cells (*i.e.*, diodes; column 1, lines 51-56) which are arranged in a matrix, detect radiation separately, and output signals representing an energy of the radiation separately (column 6, lines 6-58; column 7, lines 35-55). The apparatus of Kamae *et al.* lacks a circuit configured to calculate time differences between a signal output from either one of said plurality of semiconductor cells and signals output from remaining ones of said semiconductor cells. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (column 5, lines 33-44). Therefore it would have been obvious to one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval as taught by DiFilippo *et al.*

In regard to claim **19** which is dependent on claim 18, the apparatus of Kamae *et al.* lacks a circuit configured to compare the time difference with a predetermined threshold. DiFilippo *et al.* teach an internal coincidence circuit configured to determine a time difference among a plurality of signals output from said radiation detector in order determine if signals occur within a predetermined time interval (*i.e.*, threshold, column 5, lines 33-44). Therefore it would have been obvious to

one having ordinary skill in the art to provide an internal coincidence circuit in the apparatus of Kamae *et al.*, in order to determine if signals occur within a predetermined time interval (*i.e.*, threshold) as taught by DiFilippo *et al.*

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamae *et al.* (US 4,857,737) in view of Harris *et al.* (US 5,510,644).

In regard to claim **10** which is dependent on claim 1, the apparatus of Kamae *et al.* lacks that each of said semiconductor cells has a layer made of cadmium telluride or cadmium zinc telluride. Harris *et al.* teach semiconductor cells having a layer made of cadmium telluride in order to obtain a x-ray detector operable at room temperatures (column 2, lines 9-11). Therefore it would have been obvious to one having ordinary skill in the art to provide cadmium telluride as the semiconductor cells in the apparatus of Kamae *et al.*, in order to have a x-ray detector operable at room temperatures as taught by Harris *et al.*

Response to Arguments

8. Applicant's arguments filed 27 December 2001 have been fully considered but they are not persuasive.

In response to applicant's argument (last paragraph on pg. 3 of remarks filed 27 December 2001) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, a plurality of separate semiconductor cells arranged in a matrix) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). Kamae *et al.* teach (column 1, lines 51-54; column 6, lines 6-16 and 40-43) a γ-ray detector consisting of 2-dimensional position sensitive type radiation detectors superposed on each other in the form of a multi-layered structure and that each of the 2-dimensional position sensitive type radiation detectors comprises of a plurality of diodes formed on a semiconductor substrate with strip-shaped p and n type electrodes disposed so as to cross perpendicularly to each other on the front and rear surfaces of the semiconductor substrate. Thus the 2-dimensional position sensitive type radiation detectors comprise of a matrix of diodes (*i.e.*, semiconductor cells). It is noted that the matrix of semiconductor cells of the 2-dimensional position sensitive type radiation detectors of Kamae *et al.* are not physically separated. Unfortunately, the claim does not recite a plurality of physically separated semiconductor cells arranged in a matrix.

Applicant argues (second paragraph on pg. 4 of remarks filed 27 December 2001) that Kamae *et al.* does not disclose: a) selecting between N = 1 and N > 1, and b) a comparison of detected energy to a predetermined window for N = 1. Examiner respectfully disagrees. It should be noted that (as pointed out by applicant) N is disclosed to be the total number of reaction points within the detecting devices and that the number of reaction point i is 1 to N (see Kamae *et al.* column 7, lines 47-51). Thus the selection of the case of N > 1 leaves a second case N = 1 since N is greater than or equal to one. Hence, Fig. 4C clearly shows a selection for either the case of N > 1 or the case where N = 1 is uniquely selected. In regard to the argument that Kamae *et al.* does not disclose a comparison of detected energies to predetermined window, it

should be noted that Kamae *et al.* disclose (column 7, lines 10-44) that γ-rays lose energy by several Compton scatterings and finally is absorbed by the photoelectric effect wherein scattering/absorption events' position and energy is measured by the detecting device and (column 9, lines 3-11) that if all events are measured, the sum of the measured energies is equal to the energy of the incident γ-ray. Consider the case where N = 1 (*i.e.*, where that detecting device measures only one scattering/absorption event). The two possibilities for N = 1 as disclosed by Kamae *et al.* is that the detecting device measures either a N = 1 scattering event (measured energy not equal to the incident γ-ray energy) or a N = 1 absorption event (measured energy equal to the incident γ-ray energy). Kamae *et al.* further disclose (column 9, lines 41-52) that an anticoincidence counter is used to exclude events such as a N = 1 scattering event by determining if the detected energy is outside a predetermined window.

Applicant argues (last paragraph on pg. 4 of remarks filed 27 December 2001) that Kamae *et al.* does not disclose that the signals are substantially simultaneous for N > 1. Examiner respectfully disagrees. Kamae *et al.* disclose (column 6, lines 46-54) that the chronological order is not directly detected (*i.e.*, substantially simultaneous signals) and thus energy and momentum conservation laws are used to estimate the chronological order.

Applicant argues (first paragraph on pg. 5 of remarks filed 27 December 2001) that it is not inherent in the apparatus of Kamae *et al.* to calculate the first case. Examiner respectfully disagrees. Kamae *et al.* disclose (column 1, lines 21-40) that the location of the radiation source is confined to a straight line connecting two detectors,

which have detected the two oppositely directed annihilation photons (each of about 511 keV) by the coincidence method. Further, as discussed above, Kamae *et al.* further disclose (column 9, lines 41-52) that an anticoincidence counter is used to exclude events such as a N = 1 scattering event by determining if the detected energy is outside a predetermined window. Thus the first case only includes N = 1 absorption events. A N = 1 absorption event indicates that all of the energy of the 511 keV annihilation photon has been measured. Thus there is no other signal from the rest of the semiconductor cells. Therefore, it is inherent in the disclosure of Kamae *et al.* to calculate an incidence position of the radiation on the basis of a position of said semiconductor cell that has output the signal since all of the energy of the 511 keV photon has been measured and thus there is no other signal from the rest of the semiconductor cells.

Applicant argues (first paragraph on pg. 5 to second paragraph on pg. 6 of remarks filed 27 December 2001) that Kamae *et al.* does not disclose that signals are substantially simultaneous and does not cause such a event not to contribute to imaging. Examiner respectfully disagrees. Kamae *et al.* disclose (column 6, lines 46-54) that the chronological order is not directly detected (*i.e.*, substantially simultaneous signals) and thus energy and momentum conservation laws are used to estimate the chronological order. Further, Kamae *et al.* disclose (column 9, lines 41-52) that an anticoincidence counter is used to exclude events such as a N > 2 scattering event by determining if the detected energy is outside a predetermined window. Excluded events clearly does not contribute to imaging.

In response to applicant's argument (last two paragraph on pg. 6 of remarks filed 27 December 2001) which essentially incorporate arguments for claim 1, it should be noted that these arguments are not persuasive for the reasons stated above.

In response to applicant's arguments (third paragraph on pg. 7 of remarks filed 27 December 2001) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham can be reached on (703) 308-4090. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878

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February 13, 2002